

REMARKS

Claims 1-3 and 17-21 are pending in the application. Claim 1 is rejected under 35 U.S.C. § 102(e). Claims 1-3 and 17-21 are rejected under 35 U.S.C. § 103(a). Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw all outstanding rejections.

I. REJECTIONS UNDER 35 U.S.C. § 102(e):

The Examiner has rejected claim 1 as being anticipated by Shinmori (U.S. Patent No. 6,630,707). Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

For a claim to be anticipated under 35 U.S.C. §102, each and every claim limitation must be found within the cited prior art reference and arranged as required by the claim. M.P.E.P. § 2131.

Applicants respectfully assert that Shinmori does not disclose "at least one component including a polysilicon layer having a top surface, wherein the at least one component is formed on a field oxide region configured to separate the plurality of gate stacks" as recited in claim 1. The Examiner cites to element 10 of Shinmori as disclosing the at least one component and cites to element 18 of Shinmori as disclosing a field oxide region. Paper No. 15, page 2. Applicants respectfully traverse and assert that Shinmori instead discloses that element 10 corresponds to secondary bit line selection word-lines. Column 3, lines 57-58. Shinmori further discloses that element 18 corresponds to a device separating region that separates the memory cell and the secondary bit line selection transistor. Column 4, lines 17-18.

There is no language in Shinmori that discloses that the device separating region 18 is a field oxide region. Applicants respectfully assert that the Examiner must provide a basis in fact and/or technical reasoning to support the assertion that the device separating region 18 of Shinmori discloses a field oxide region. *Ex pare Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the

Examiner must provide extrinsic evidence that must make clear that the device separating region 18 of Shinmori discloses a field oxide region, and that it be so recognized for persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999). Thus, Shinmori does not disclose all of the limitations of claim 1, and thus Shinmori does not anticipate claim 1. M.P.E.P. §2131.

Furthermore, the device separating region 18 (Examiner asserts that element 18 of Shinmori corresponds to a field oxide region) does not separate a plurality of gate stacks as required by claim 1. As illustrated in Figure 5 of Shinmori, the device separating region 18 does not separate a plurality of gate stacks. The Examiner had previously identified elements 7 and 122 as being components of a gate stack. As illustrated in Figure 5 of Shinmori, the stacks that are comprised of elements 7 and 122 are not separated by device separating region 18. Thus, Shinmori does not disclose all of the limitations of claim 1, and thus Shinmori does not anticipate claim 1. M.P.E.P. §2131.

Applicants further assert that Shinmori does not disclose "a silicide on the top surface of the polysilicon layer of the at least one component" as recited in claim 1. The Examiner cites column 4, lines 46-49 of Shinmori as disclosing the above-cited claim limitation. Paper No. 15, page 2. Applicants respectfully traverse and assert that Shinmori instead discloses that the secondary bit line selection word-line 10 has a dual-layered structure with low resistance, which is made up of a polysilicon and a metal silicide layer. There is no language though that discloses that the metal silicide layer is placed on the top surface of the polysilicon. Thus, Shinmori does not disclose all of the limitations of claim 1, and thus Shinmori does not anticipate claim 1. M.P.E.P. §2131.

As a result of the foregoing, Applicants respectfully assert that not each and every claim limitation was found within Shinmori, and thus claim 1 is not anticipated by Shinmori.

II. REJECTIONS UNDER 35 U.S.C. §103(a):

The Examiner has rejected claims 2 and 3 under 35 U.S.C. §103(a) as being unpatentable over Shinmori in view of Ma et al. (U.S. Patent No. 5,939,753) (hereinafter "Ma"). The Examiner has further rejected claim 17 under 35 U.S.C. §103(a) as being unpatentable over Shinmori in view of Applicants' Background. The Examiner has further rejected claims 19 and 20 under 35 U.S.C. §103(a) as being unpatentable over Shinmori in view of Applicants' Background and in further view of Ma et al. (U.S. Patent No. 5,939,753) (hereinafter "Ma"). The Examiner has further rejected claims 1, 17, 18 and 21 under 35 U.S.C. §103(a) as being unpatentable over Applicants' Background in view of Becker et al. (U.S. Patent No. 6,051,501) (hereinafter "Becker"). The Examiner has further rejected claims 2, 3, 19 and 20 under 35 U.S.C. §103(a) as being unpatentable over Applicants' Background in view of Becker and in further view of Ma. Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

A. Claims 2-3 are patentable over Shinmori in view of Ma.

The Examiner has rejected claims 2-3 under 35 U.S.C. §103(a) as being unpatentable over Shinmori in view of Ma. Paper No. 15, page 3. Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

1. The Examiner has not presented any objective evidence or motivation for combining Shinmori with Ma.

A *prima facie* showing of obviousness requires the Examiner to establish, *inter alia*, that the prior art references teach or suggest, either alone or in combination, all of the limitations of the claimed invention, and the Examiner must provide a motivation or suggestion to combine or modify the prior art reference to make the claimed inventions. M.P.E.P. § 2142. The motivation or suggestion to combine references must come from one of three possible sources: the nature of the problem to be solved, the teaching of the prior art or the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 47 U.S.P.Q.2d. 1453, 1458 (Fed. Cir. 1998).

The showings must be clear and particular. *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433-34 (Fed. Cir. 2002); *In re Kotzab*, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. *Id.*

The Examiner does not provide a motivation for modifying Shinmori with Ma to have a silicide include a titanium silicide where the silicide is on a top surface of a polysilicon layer of the at least one component, as recited in claim 2. Neither has the Examiner provided a motivation for modifying Shinmori with Ma to have a silicide include a cobalt silicide where the silicide is on a top surface of a polysilicon layer of the at least one component, as recited in claim 3. In order to establish a *prima facie* case of obviousness, the Examiner must provide a motivation to modify Shinmori with Ma to have a silicide include a titanium silicide or a cobalt silicide where the silicide is on a top surface of a polysilicon layer of the at least one component. M.P.E.P. §2142. The Examiner has not provided any such motivation but instead relies upon his own subjective opinion which is insufficient to establish a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 2 and 3. *Id.*

Further, the Examiner must present objective evidence and not rely upon his own subjective opinion in support of combining Shinmori, which teaches a dual-layered interconnect which is made up of a polysilicon and a metal silicide layer (column 4, lines 35-36), with Ma, which teaches titanium silicide regions 108 and 109 that serve as the two electrodes of a polysilicon resistor (column 7, line 67 – column 8, line 2). *Id.* The Examiner must present objective evidence as to why one of ordinary skill in the art with Shinmori in front of him would have been motivated to modify the dual-layered interconnect, as taught in Shinmori, to include a titanium silicide region based on a resistor having an electrode that is a titanium silicide region, as taught in Ma. *Id.* Since the Examiner has not presented any objective

evidence for combining Shinmori with Ma, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 2 and 3. *Id.*

2. The Examiner's reliance on *Sinclair & Carroll Co., Inc. v. Interchemical Corp.* is misplaced.

The Examiner states in his rejection to claims 2-3 that a "selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co., Inc. v. Interchemical Corp.*, 325 U.S. 327, 65 U.S.P.Q. 297 (1945)." Paper No. 15, pages 3-4. Applicants note that *Sinclair & Carroll*, upon which the Examiner relies, precedes *Graham vs. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). Thus, to the extent that *Sinclair & Carroll Co.* anticipates the factual analysis mandated in *Graham*, they are merely cumulative of *Graham*. Conversely, to the extent that as contrary to the factual inquiry mandated by *Graham*, it must be deemed overruled by *Graham*.

Furthermore, if the Examiner cites this case to suggest that the Examiner does not have a burden of providing objective evidence for modifying Shinmori with Ma to have a silicide include a titanium silicide or a cobalt silicide where the silicide is on a top surface of a polysilicon layer of the at least one component, the Examiner is mistaken. The Examiner must submit objective evidence and not rely on his own subjective opinion for modifying Shinmori with Ma to have a silicide include a titanium silicide or a cobalt silicide where the silicide is on a top surface of a polysilicon layer of the at least one component. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002).

Furthermore, Applicants respectfully assert that the Examiner's use of *Sinclair & Carroll Co.* is misplaced. In *Sinclair & Carroll Co.*, the U.S. Supreme Court determined that Gessler's patent on a particular ink was invalid since the ink was already known. *Sinclair & Carroll Co.* at 335. However, Applicants are not attempting to procure a patent on either titanium silicide or cobalt silicide. Hence the citing of *Sinclair & Carroll Co.* by the Examiner is misplaced.

3. By combining Shinmori with Ma, the principle of operation of Shinmori would change.

If the proposed modification or combination of the prior art would change the principle of the operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959). Further, if the proposed modification would render the prior art invention being modified unsatisfactorily for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). For the reasons discussed below, Applicants respectfully submit that by combining Shinmori with Ma, the principle of operation in Shinmori would change and subsequently render the operation of Shinmori to perform its purpose unsatisfactorily.

Shinmori teaches that the purpose of the invention is to provide a semiconductor device with hybridized non-volatile memory/logic circuits, which is fabricated in such a manner that the interconnecting process of the non-volatile memory circuit is shared with the logic circuit interconnecting process and thereby reduces the resistance of the secondary bit lines and also increases the speed of accessing the non-volatile memory circuit. Column 2, lines 56-63. Shinmori further teaches that any one of a plurality of secondary bit lines is selectively connected to the primary bit line. Abstract. Shinmori further teaches that the primary bit line and secondary bit lines are all formed on the same insulating film. Abstract.

Ma, on the other hand, teaches that it is desirable for the die and the process to provide a high level of integration and a power efficient circuit. Column 1, lines 42-43. Ma further teaches that it is desirable for the die to be able to perform both radio frequency analog circuit and digital circuit features. Column 1, lines 43-45. Ma further teaches a monolithic integrated circuit die fabricated to include unilateral FETs, RF passive devices, a polysilicon resistor, an inductor and an ESD protection device. Abstract. Ma further teaches that a first p+ sinker provides signal isolation between two FETs separated by the first sinker and is coupled to a source region of a power FET via a self-aligned titanium silicide structure. Abstract. Ma further

teaches that a second p+ sinker is coupled to a bottom plate of the double polysilicon capacitor. Abstract. Ma further teaches that a third p+ sinker is coupled to a source region of the ESD protection device via another titanium silicide structure. Abstract.

By combining Shinmori with Ma, Shinmori would no longer be able to provide a semiconductor device with hybridized non-volatile memory/logic circuits, which is fabricated in such a manner that the interconnecting process of the non-volatile memory circuit is shared with the logic circuit interconnecting process. Instead, the teachings of Shinmori would have to be modified to be a monolithic integrated circuit die with sinkers, as taught in Ma. Further, Ma does not teach a secondary or a primary bit line where any one of a plurality of secondary bit lines is selectively connected to a primary bit line. Hence, Shinmori would have to be modified to not have any one of a plurality of secondary bit lines selectively connected to a primary bit line. By not having any one of a plurality of secondary bit lines selectively connected to a primary bit line, Shinmori would no longer be able to provide a semiconductor device with hybridized non-volatile memory/logic circuits, which is fabricated in such a manner that the interconnecting process of the non-volatile memory circuit is shared with the logic circuit interconnecting process. Hence, by modifying Shinmori with Ma, the principle of operation in Shinmori would change and subsequently render the operation of Shinmori to perform its purpose unsatisfactorily. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 2-3. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959); *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

B. Claim 17 is patentable over Shinmori in view of Applicants' Background.

The Examiner has further rejected claim 17 under 35 U.S.C. §103(a) as being unpatentable over Shinmori in view of Applicants' Background. Paper No. 15, page 4. Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

1. The Examiner has not presented any objective evidence or motivation for combining Shinmori with Applicants' Background.

As stated above, a *prima facie* showing of obviousness requires the Examiner to establish, *inter alia*, that the prior art references teach or suggest, either alone or in combination, all of the limitations of the claimed invention, and the Examiner must provide a motivation or suggestion to combine or modify the prior art reference to make the claimed inventions. M.P.E.P. § 2142. The motivation or suggestion to combine references must come from one of three possible sources: the nature of the problem to be solved, the teaching of the prior art or the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). The showings must be clear and particular. *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433-34 (Fed. Cir. 2002); *In re Kotzab*, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. *Id.*

The Examiner does not provide a motivation for modifying Shinmori with Applicants' Background to have an oxide layer where the gate stack is formed on the oxide layer as well as to have a field oxide region located adjacent to the oxide layer and to have a second polysilicon layer formed on the insulating layer, as recited in claim 17. In order to establish a *prima facie* case of obviousness, the Examiner must provide a motivation to modify Shinmori with Applicants' Background to have an oxide layer where the gate stack is formed on the oxide layer as well as to have a field oxide region located adjacent to the oxide layer and to have a second polysilicon layer formed on the insulating layer. M.P.E.P. § 2142. The Examiner has not provided any such motivation but instead relies upon his own subjective opinion which is insufficient to establish a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 17. *Id.*

Further, the Examiner must present objective evidence and not rely upon his own subjective opinion in support of combining Shinmori, which teaches a dual-layered interconnect which is made up of a polysilicon and a metal silicide layer (column 4, lines 35-36), with Applicants' Background, which teaches a gate stack including a floating gate, an insulating layer, a control gate, a tungsten silicide layer and a SiON layer (page 3, lines 2-3). *Id.* The Examiner must present objective evidence as to why one of ordinary skill in the art with Shinmori in front of him would have been motivated to modify the semiconductor device, as taught in Shinmori, to have a gate stack including a floating gate, an insulating layer, a control gate, a tungsten silicide layer and a SiON layer, as taught in Applicants' Background. *Id.* Since the Examiner has not presented any objective evidence for combining Shinmori with Applicants' Background, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 17. *Id.*

2. The Examiner's reliance on *Sinclair & Carroll Co., Inc. v. Interchemical Corp.* is misplaced.

The Examiner states in his rejection to claim 17 that a "selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co., Inc. v. Interchemical Corp.*, 325 U.S. 327, 65 U.S.P.Q. 297 (1945)." Paper No. 15, page 5. Applicants note that *Sinclair & Carroll*, upon which the Examiner relies, precedes *Graham vs. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). Thus, to the extent that *Sinclair & Carroll Co.* anticipates the factual analysis mandated in *Graham*, they are merely cumulative of *Graham*. Conversely, to the extent that as contrary to the factual inquiry mandated by *Graham*, it must be deemed overruled by *Graham*.

Furthermore, if the Examiner cites this case to suggest that the Examiner does not have a burden of providing objective evidence for modifying Shinmori with Applicants' Background to have an oxide layer where the gate stack is formed on the oxide layer as well as to have a field oxide region located adjacent to the oxide layer and to have a second polysilicon layer formed on the insulating layer, the Examiner is mistaken. The Examiner must submit objective evidence and not rely on his own

subjective opinion for modifying Shinmori with Applicants' Background to have an oxide layer where the gate stack is formed on the oxide layer as well as to have a field oxide region located adjacent to the oxide layer and to have a second polysilicon layer formed on the insulating layer. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002).

Furthermore, Applicants respectfully assert that the Examiner's use of *Sinclair & Carroll Co.* is misplaced. In *Sinclair & Carroll Co.*, the U.S. Supreme Court determined that Gessler's patent on a particular ink was invalid since the ink was already known. *Sinclair & Carroll Co.* at 335. However, Applicants are not attempting to procure a patent on either titanium silicide or cobalt silicide. Hence the citing of *Sinclair & Carroll Co.* by the Examiner is misplaced.

3. Shinmori and Applicants' Background, taken singly or in combination, do not teach or suggest the following claim limitations.

Applicants respectfully assert that the Examiner is ignoring claim language in claim 17. There is no language in claim 17 that recites "a gate insulating layer", "a floating gate", "an insulating layer formed on a floating gate", "a field oxide region located adjacent to the gate insulating layer" or "a silicide layer formed on the second polysilicon layer". All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has ignored claim language of claim 17, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 17. M.P.E.P. §2143.03.

Applicants further assert that Shinmori and Applicants' Background, taken singly or in combination, do not teach or suggest "a field oxide region located adjacent to said oxide layer" as recited in claim 17. The Examiner cites to element 18 of Shinmori as teaching a field oxide region. Paper No. 15, page 4. However, element 18 (a device separating region) is not located adjacent to an oxide layer as illustrated in Figure 5 of Shinmori. Neither does page 3, lines 1-3 of Applicants' Background (Examiner cited this passage of Applicants' Background) teach a field oxide region located adjacent to an oxide layer. Therefore, the Examiner has not

presented a *prima facie* case of obviousness since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

Applicants further assert that Shinmori and Applicants' Background, taken singly or in combination, do not teach or suggest "a component located on said field oxide region, wherein said component is formed from one of said first and said second polysilicon layer" as recited in claim 17. The Examiner cites element 10 of Shinmori as teaching a component located on a field oxide region. Paper No. 15, page 4. However, the secondary bit line selection word-line (element 10 of Shinmori) is not formed from either a first polysilicon layer of a gate stack or a second polysilicon layer formed on an insulating layer of a gate stack. Therefore, the Examiner has not presented a *prima facie* case of obviousness since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

Applicants further assert that Shinmori and Applicants' Background, taken singly or in combination, do not teach or suggest "a silicide layer formed on said component" as recited in claim 17. The Examiner cites column 4, lines 46-49 of Shinmori as teaching the above-cited claim limitation. Paper No. 15, page 2. Applicants respectfully traverse and assert that Shinmori instead teaches that the secondary bit line selection word-line 10 (Examiner asserts that element 10 of Shinmori teaches a component) has a dual-layered structure with low resistance, which is made up of a polysilicon and a metal silicide layer. There is no language though that teaches that a silicide layer is formed on the component. Shinmori instead teaches that the component is made up of a metal silicide layer. Therefore, the Examiner has not presented a *prima facie* case of obviousness since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

C. Claims 19 and 20 are patentable over Shinmori in view of Applicants' Background and in further view of Ma.

The Examiner has further rejected claims 19 and 20 under 35 U.S.C. §103(a) as being unpatentable over Shinmori in view of Applicants' Background and in further view of Ma. Paper No. 15, page 5. Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

1. The Examiner has not presented any objective evidence or motivation for combining Shinmori with Ma.

As stated above, a *prima facie* showing of obviousness requires the Examiner to establish, *inter alia*, that the prior art references teach or suggest, either alone or in combination, all of the limitations of the claimed invention, and the Examiner must provide a motivation or suggestion to combine or modify the prior art reference to make the claimed inventions. M.P.E.P. § 2142. The motivation or suggestion to combine references must come from one of three possible sources: the nature of the problem to be solved, the teaching of the prior art or the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 47 U.S.P.Q.2d. 1453, 1458 (Fed. Cir. 1998). The showings must be clear and particular. *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433-34 (Fed. Cir. 2002); *In re Kotzab*, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. *Id.*

The Examiner does not provide a motivation for modifying Shinmori and Applicants' Background with Ma to have a silicide comprise a titanium silicide where the silicide is formed on the component located on the field oxide region, as recited in claim 19. Neither has the Examiner provided a motivation for modifying Shinmori and Applicants' Background with Ma to have a silicide comprise a cobalt silicide where the silicide is formed on the component located on the field oxide region, as recited in claim 20. In order to establish a *prima facie* case of obviousness, the

Examiner must provide a motivation to modify Shinmori and Applicants' Background with Ma to have a silicide comprise either a titanium silicide or a cobalt silicide where the silicide is formed on the component located on the field oxide region. M.P.E.P. §2142. The Examiner has not provided any such motivation but instead relies upon his own subjective opinion which is insufficient to establish a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 19 and 20. *Id.*

Further, the Examiner must present objective evidence and not rely upon his own subjective opinion in support of combining Shinmori, which teaches a dual-layered interconnect which is made up of a polysilicon and a metal silicide layer (column 4, lines 35-36), with Ma, which teaches titanium silicide regions 108 and 109 that serve as the two electrodes of a polysilicon resistor (column 7, line 67 – column 8, line 2). *Id.* The Examiner must present objective evidence as to why one of ordinary skill in the art with Shinmori in front of him would have been motivated to modify the dual-layered interconnect, as taught in Shinmori, to include a titanium silicide region based on a resistor having an electrode that is a titanium silicide region, as taught in Ma. *Id.* Since the Examiner has not presented any objective evidence for combining Shinmori with Ma, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 19 and 20. *Id.*

2. The Examiner's reliance on *Sinclair & Carroll Co., Inc. v. Interchemical Corp.* is misplaced.

The Examiner states in his rejection to claims 19 and 20 that a "selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co., Inc. v. Interchemical Corp.*, 325 U.S. 327, 65 U.S.P.Q. 297 (1945)." Paper No. 15, page 5. Applicants note that *Sinclair & Carroll*, upon which the Examiner relies, precedes *Graham vs. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). Thus, to the extent that *Sinclair & Carroll Co.* anticipates the factual analysis mandated in *Graham*, they are merely cumulative

of *Graham*. Conversely, to the extent that as contrary to the factual inquiry mandated by *Graham*, it must be deemed overruled by *Graham*.

Furthermore, if the Examiner cites this case to suggest that the Examiner does not have a burden of providing objective evidence for modifying Shinmori with Ma to have a silicide comprise either a titanium silicide or a cobalt silicide where the silicide is formed on the component located on the field oxide region, the Examiner is mistaken. The Examiner must submit objective evidence and not rely on his own subjective opinion for modifying Shinmori with Ma to have a silicide comprise either a titanium silicide or a cobalt silicide where the silicide is formed on the component located on the field oxide region. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002).

Furthermore, Applicants respectfully assert that the Examiner's use of *Sinclair & Carroll Co.* is misplaced. In *Sinclair & Carroll Co.*, the U.S. Supreme Court determined that Gessler's patent on a particular ink was invalid since the ink was already known. *Sinclair & Carroll Co.* at 335. However, Applicants are not attempting to procure a patent on either titanium silicide or cobalt silicide. Hence the citing of *Sinclair & Carroll Co.* by the Examiner is misplaced.

3. By combining Shinmori with Ma, the principle of operation of Shinmori would change.

If the proposed modification or combination of the prior art would change the principle of the operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959). Further, if the proposed modification would render the prior art invention being modified unsatisfactorily for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). For the reasons discussed below, Applicants respectfully submit that by combining Shinmori with Ma, the principle of operation in Shinmori would change and subsequently render the operation of Shinmori to perform its purpose unsatisfactorily.

Shinmori teaches that the purpose of the invention is to provide a semiconductor device with hybridized non-volatile memory/logic circuits, which is fabricated in such a manner that the interconnecting process of the non-volatile memory circuit is shared with the logic circuit interconnecting process and thereby reduces the resistance of the secondary bit lines and also increases the speed of accessing the non-volatile memory circuit. Column 2, lines 56-63. Shinmori further teaches that any one of a plurality of secondary bit lines is selectively connected to the primary bit line. Abstract. Shinmori further teaches that the primary bit line and secondary bit lines are all formed on the same insulating film. Abstract.

Ma, on the other hand, teaches that it is desirable for the die and the process to provide a high level of integration and a power efficient circuit. Column 1, lines 42-43. Ma further teaches that it is desirable for the die to be able to perform both radio frequency analog circuit and digital circuit features. Column 1, lines 43-45. Ma further teaches a monolithic integrated circuit die fabricated to include unilateral FETs, RF passive devices, a polysilicon resistor, an inductor and an ESD protection device. Abstract. Ma further teaches that a first p⁺ sinker provides signal isolation between two FETs separated by the first sinker and is coupled to a source region of a power FET via a self-aligned titanium silicide structure. Abstract. Ma further teaches that a second p⁺ sinker is coupled to a bottom plate of the double polysilicon capacitor. Abstract. Ma further teaches that a third p⁺ sinker is coupled to a source region of the ESD protection device via another titanium silicide structure. Abstract.

By combining Shinmori with Ma, Shinmori would no longer be able to provide a semiconductor device with hybridized non-volatile memory/logic circuits, which is fabricated in such a manner that the interconnecting process of the non-volatile memory circuit is shared with the logic circuit interconnecting process. Instead, the teachings of Shinmori would have to be modified to be a monolithic integrated circuit die with sinkers, as taught in Ma. Further, Ma does not teach a secondary or a primary bit line where any one of a plurality of secondary bit lines is selectively connected to a primary bit line. Hence, Shinmori would have to be modified to not have any one of a plurality of secondary bit lines selectively connected to a primary bit line. By not having any one of a plurality of secondary bit

lines selectively connected to a primary bit line, Shinmori would no longer be able to provide a semiconductor device with hybridized non-volatile memory/logic circuits, which is fabricated in such a manner that the interconnecting process of the non-volatile memory circuit is shared with the logic circuit interconnecting process. Hence, by modifying Shinmori with Ma, the principle of operation in Shinmori would change and subsequently render the operation of Shinmori to perform its purpose unsatisfactorily. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 19 and 20. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959); *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

D. Claims 1, 17, 18 and 21 are patentable over Applicants' Background in view of Becker.

The Examiner has further rejected claims 1, 17, 18 and 21 under 35 U.S.C. §103(a) as being unpatentable over Applicants' Background and in view of Becker. Paper No. 15, page 5. Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

1. Examiner ignoring claim language.

Applicants respectfully assert that the Examiner is ignoring the claim language in claims 1 and 17 and therefore has not presented a *prima facie* case of obviousness in rejecting claims 1 and 17. M.P.E.P. §2143. The Examiner states:

Applicant Admitted Prior Art fails to disclose a silicide layer formed on the first polysilicon layer. However, Becker et al. discloses that the silicide layer (58) formed on the poly layer (54) (see col. 3, lines 33-52). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to use silicide layer on the polysilicon component as taught by Becker et al. into the device of Applicant Admitted Prior Art because silicide layer would provide the known purpose as an etch stop layer (see col. 3, lines 50-52). Paper No. 15, page 6.

Applicants respectfully assert that neither claim 1 nor claim 17 recites the limitation of "a silicide layer formed on the first polysilicon layer" as asserted by the Examiner. Instead, claim 17 recites "a silicide layer formed on said component" and claim 1 recites "a silicide on the top surface of the polysilicon layer having a top surface." All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. §2143.03. Since the Examiner has ignored claim language of claims 1 and 17, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 1 and 17. M.P.E.P. §2143.03.

2. Applicants' Background and Becker, taken singly or in combination, do not teach or suggest the following claim limitations.

Applicants respectfully assert that Applicants' Background and Becker, taken singly or in combination, do not teach or suggest "a silicide on the top surface of the polysilicon layer of the at least one component" as recited in claim 1. The Examiner cites column 3, lines 33-52 of Becker as teaching the above-cited claim limitation. Paper No. 15, page 6. Applicants respectfully traverse and assert that Becker instead teaches that a tungsten silicide layer overlying poly. Column 3, lines 34-35. Becker does not teach a silicide on a polysilicon layer of a component formed on a field oxide region. Therefore, the Examiner has not presented a *prima facie* case of obviousness since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

Applicants further assert that Applicants' Background and Becker, taken singly or in combination, do not teach or suggest "an insulating layer covering the plurality of gate stacks, the at least one component and the silicide, the insulating layer having a plurality of contact holes therein" as recited in claim 1. The Examiner has not cited to any passage in either Applicants' Background or Becker as teaching the above-cited claim limitation. The Examiner bears the initial burden of factually supporting a *prima facie* case of obviousness. M.P.E.P. §2142. In order to present a

prima facie case of obviousness, the Examiner must show a prior art reference (or references when combined) that teaches or suggests all the claim limitations. M.P.E.P. §2143. Since the Examiner has not provided such a reference or combination of references, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 1. M.P.E.P. §2143. Hence, claim 1 is patentable over Applicants' Background in view of Becker. M.P.E.P. §2143.

Applicants further assert that Applicants' Background and Becker, taken singly or in combination, do not teach or suggest "a silicide layer formed on said component" as recited in claim 17. The Examiner cites column 3, lines 33-52 of Becker as teaching the above-cited claim limitation. Paper No. 15, page 6. Applicants respectfully traverse and assert that Becker instead teaches that a tungsten silicide layer overlying poly. Column 3, lines 34-35. Becker does not teach a silicide layer formed on a component formed on a field oxide region. Therefore, the Examiner has not presented a *prima facie* case of obviousness since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

Claims 18 and 21 recite combinations of features including the combinations of claim 17, and thus are patentable for at least the above-stated reasons. Claims 18 and 21 recite additional features, which, in combination with the features of the claims upon which they depend, are patentable over Applicants' Background in view of Becker.

For example, Applicants' Background and Becker, taken singly or in combination, do not teach or suggest "wherein said silicide layer on said component prevents etching through one of said first and said second polysilicon layer" as recited in claim 18. The Examiner cites column 3, lines 50-52 and Figure 5 of Becker as teaching the above-cited claim limitation. Paper No. 15, page 6. Applicants respectfully traverse and assert that Becker instead teaches that a vertical etch is performed through nitride and oxide using silicide as an etch stop and forming a contact to silicide. While Becker teaches using silicide as an etch stop, Becker does

not teach a silicide layer on a component that prevents etching through either the first or second polysilicon layer. Therefore, the Examiner has not presented a *prima facie* case of obviousness since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

3. Examiner has not presented any objective evidence or motivation for modifying Applicants' Background with Becker.

As stated above, a *prima facie* showing of obviousness requires the Examiner to establish, *inter alia*, that the prior art references teach or suggest, either alone or in combination, all of the limitations of the claimed invention, and the Examiner must provide a motivation or suggestion to combine or modify the prior art reference to make the claimed inventions. M.P.E.P. § 2142. The motivation or suggestion to combine references must come from one of three possible sources: the nature of the problem to be solved, the teaching of the prior art or the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 47 U.S.P.Q.2d. 1453, 1458 (Fed. Cir. 1998). The showings must be clear and particular. *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433-34 (Fed. Cir. 2002); *In re Kotzab*, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. *Id.*

The Examiner's motivation for modifying Applicants' Background with Becker (1) to have a silicide on the top surface of the polysilicon layer of the at least one component, as recited in claim 1, and (2) to have a silicide layer formed on a component located on a field oxide region, as recited in claim 17, is "because silicide layer would provide the known purpose as an etch stop layer (see col. 3, lines 50-52)." Paper No. 15, page 6. The Examiner's motivation is insufficient to support a *prima facie* case of obviousness for at least the reasons stated below.

The Examiner's motivation is not a motivation as to why one of ordinary skill in the art with the primary reference (Applicants' Background) in front of him would have been motivated to modify the primary reference (Applicants' Background) with

the teachings of the secondary reference (Becker). There is no suggestion in Applicants' Background of using silicide as an etch stop layer (Examiner's motivation). The Examiner's motivation is a motivation for the secondary reference (Becker) to solve its problem. In fact, the Examiner cites to column 3, lines 50-52 of Becker as support for his motivation which address the problem to be solved by Becker and the manner in solving that problem. Becker teaches anisotropically pre-etching a nitride layer to at least partially open a contact to an underlying layer such as a silicide layer and to form a sidewall from the nitride in order to reduce problems associated with etching various layers. Column 2, lines 29-37. Becker further teaches that a vertical etch is performed through the nitride and oxide using silicide as an etch stop and forming a contact to silicide. Column 3, lines 50-52. Becker uses silicide as an etch stop layer to protect the poly which lies underneath the silicide. Column 3, lines 34-35. Hence, the Examiner's motivation addresses one of the problems involved with etching. The Examiner has not pointed to any language in Applicants' Background dealing with problems involved with etching. Hence, the Examiner's motivation is not a suggestion to combine the primary reference (Applicants' Background) with the secondary reference (Becker). The Examiner must provide objective evidence as to why one of ordinary skill in the art with the primary reference (Applicants' Background) in front of him would have been motivated to modify the teachings of the primary reference (Applicants' Background) with the teachings of the secondary reference (Becker). *See In re Lee*, 61 U.S.P.Q.2d 1430, 1433-34 (Fed. Cir. 2002); *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000). Merely stating the motivation to solve a problem of the secondary reference (Becker) is not evidence for suggesting the combination of the primary reference (Applicants' Background) with the secondary reference (Becker). *See Id.* Consequently, the Examiner's motivation is insufficient to support a *prima facie* case of obviousness for rejecting claims 1, 17, 18 and 21. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002).

Further, the Examiner must submit objective evidence and not rely on his own subjective opinion in support of combining Applicants' Background with Becker, which teaches anisotropically pre-etching a nitride layer to at least partially open a

contact to an underlying layer such as a silicide layer and to form a sidewall from the nitride in order to reduce problems associated with etching various layers. *Id.* There is no language in Applicants' Background to pre-etch a nitride layer. Neither is there any suggestion in Applicants' Background of anisotropically pre-etching a nitride layer to at least partially open a contact. Neither is there any suggestion in Applicants' Background of anisotropically pre-etching a nitride layer to at least partially open a contact to an underlying layer such as a silicide layer. Neither is there any suggestion in Applicants' Background of anisotropically pre-etching a nitride layer to at least partially open a contact to an underlying layer such as a silicide layer and to form a sidewall from the nitride in order to reduce problems associated with etching various layers. Since the Examiner has not submitted objective evidence for modifying Applicants' Background with Becker, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1, 17, 18 and 21. *Id.*

Further, the Examiner must submit objective evidence and not rely on his own subjective opinion in support of modifying Applicants' Background to have a silicide on the top surface of the polysilicon layer of the at least one component (Examiner admits that Applicants' Background does not teach this limitation). *Id.* There is no suggestion in Applicants' Background of having a silicide layer formed on a component. Since the Examiner has not submitted objective evidence for modifying Applicants' Background to have a silicide on the top surface of the polysilicon layer of the at least one component, the Examiner has not presented a *prima facie* case of obviousness for rejecting claim 1. *Id.*

Further, the Examiner must submit objective evidence and not rely on his own subjective opinion in support of modifying Applicants' Background to have a silicide layer formed on a component located on a field oxide region (Examiner admits that Applicants' Background does not teach this limitation). *Id.* There is no suggestion in Applicants' Background of having a silicide layer formed on a component located on a field oxide region. Since the Examiner has not submitted objective evidence for modifying Applicants' Background to have a silicide layer formed on a component

located on a field oxide region, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 17, 18 and 21. *Id.*

Further, the Examiner does not provide a motivation for modifying Applicants' Background with Becker to have a silicide layer on a component to prevent etching through one of a first and a second polysilicon layer, as recited in claim 18. In order to establish a *prima facie* case of obviousness, the Examiner must provide a motivation to modify Applicants' Background with Becker as indicated above. M.P.E.P. §2142. The Examiner has not provided any such motivation but instead relies upon his own subjective opinion which is insufficient to establish a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 18. *Id.*

E. Claims 2-3 are patentable over Applicants' Background in view of Becker and in further view of Ma.

The Examiner has further rejected claims 2 and 3 under 35 U.S.C. §103(a) as being unpatentable over Applicants' Background and in view of Becker and in further view of Ma. Paper No. 15, page 7. Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

1. The Examiner has not presented any objective evidence or motivation for combining Applicants' Background and Becker with Ma.

As stated above, a *prima facie* showing of obviousness requires the Examiner to establish, *inter alia*, that the prior art references teach or suggest, either alone or in combination, all of the limitations of the claimed invention, and the Examiner must provide a motivation or suggestion to combine or modify the prior art reference to make the claimed inventions. M.P.E.P. § 2142. The motivation or suggestion to combine references must come from one of three possible sources: the nature of the problem to be solved, the teaching of the prior art or the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 47 U.S.P.Q.2d. 1453, 1458 (Fed. Cir. 1998).

The showings must be clear and particular. *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433-34 (Fed. Cir. 2002); *In re Kotzab*, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. *Id.*

The Examiner does not provide a motivation for modifying Applicants' Background and Becker with Ma to have a silicide include a titanium silicide where the silicide is on a top surface of a polysilicon layer of the at least one component, as recited in claim 2. Neither has the Examiner provided a motivation for modifying Applicants' Background and Becker with Ma to have a silicide include a cobalt silicide where the silicide is on a top surface of a polysilicon layer of the at least one component, as recited in claim 3. In order to establish a *prima facie* case of obviousness, the Examiner must provide a motivation to modify Applicants' Background and Becker with Ma to have a silicide include a titanium silicide or a cobalt silicide where the silicide is on a top surface of a polysilicon layer of the at least one component. M.P.E.P. §2142. The Examiner has not provided any such motivation but instead relies upon his own subjective opinion which is insufficient to establish a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 2 and 3. *Id.*

Further, the Examiner must present objective evidence and not rely upon his own subjective opinion in support of combining Applicants' Background with Ma, which teaches titanium silicide regions 108 and 109 that serve as the two electrodes of a polysilicon resistor (column 7, line 67 – column 8, line 2). *Id.* The Examiner must present objective evidence as to why one of ordinary skill in the art with Applicants' Background in front of him would have been motivated to modify Applicants' Background to include a titanium silicide region based on a resistor having an electrode that is a titanium silicide region, as taught in Ma. *Id.* Since the Examiner has not presented any objective evidence for combining Applicants'

Background with Ma, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 2 and 3. *Id.*

2. The Examiner's reliance on *Sinclair & Carroll Co., Inc. v. Interchemical Corp.* is misplaced.

The Examiner states in his rejection to claims 2-3 that a "selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co., Inc. v. Interchemical Corp.*, 325 U.S. 327, 65 U.S.P.Q. 297 (1945)." Paper No. 15, page 7. Applicants note that *Sinclair & Carroll*, upon which the Examiner relies, precedes *Graham vs. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). Thus, to the extent that *Sinclair & Carroll Co.* anticipates the factual analysis mandated in *Graham*, they are merely cumulative of *Graham*. Conversely, to the extent that as contrary to the factual inquiry mandated by *Graham*, it must be deemed overruled by *Graham*.

Furthermore, if the Examiner cites this case to suggest that the Examiner does not have a burden of providing objective evidence for modifying Applicants' Background and Becker with Ma to have a silicide include a titanium silicide or a cobalt silicide where the silicide is on a top surface of a polysilicon layer of the at least one component, the Examiner is mistaken. The Examiner must submit objective evidence and not rely on his own subjective opinion for modifying Applicants' Background and Becker with Ma to have a silicide include a titanium silicide or a cobalt silicide where the silicide is on a top surface of a polysilicon layer of the at least one component. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002).

Furthermore, Applicants respectfully assert that the Examiner's use of *Sinclair & Carroll Co.* is misplaced. In *Sinclair & Carroll Co.*, the U.S. Supreme Court determined that Gessler's patent on a particular ink was invalid since the ink was already known. *Sinclair & Carroll Co.* at 335. However, Applicants are not attempting to procure a patent on either titanium silicide or cobalt silicide. Hence the citing of *Sinclair & Carroll Co.* by the Examiner is misplaced.

- F. Claims 19 and 20 are patentable over Applicants' Background in view of Becker and in further view of Ma.

The Examiner has further rejected claims 19 and 20 under 35 U.S.C. §103(a) as being unpatentable over Applicants' Background and in view of Becker and in further view of Ma. Paper No. 15, page 7. Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

1. The Examiner has not presented any objective evidence or motivation for combining Applicants' Background and Becker with Ma.

As stated above, a *prima facie* showing of obviousness requires the Examiner to establish, *inter alia*, that the prior art references teach or suggest, either alone or in combination, all of the limitations of the claimed invention, and the Examiner must provide a motivation or suggestion to combine or modify the prior art reference to make the claimed inventions. M.P.E.P. § 2142. The motivation or suggestion to combine references must come from one of three possible sources: the nature of the problem to be solved, the teaching of the prior art or the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). The showings must be clear and particular. *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433-34 (Fed. Cir. 2002); *In re Kotzab*, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. *Id.*

The Examiner does not provide a motivation for modifying Applicants' Background and Becker with Ma to have a silicide comprise a titanium silicide where the silicide is formed on the component located on the field oxide region, as recited in claim 19. Neither has the Examiner provided a motivation for modifying Applicants' Background and Becker with Ma to have a silicide comprise a cobalt silicide where the silicide is formed on the component located on the field oxide region, as recited in claim 20. In order to establish a *prima facie* case of obviousness, the Examiner must

provide a motivation to modify Applicants' Background and Becker with Ma to have a silicide comprise either a titanium silicide or a cobalt silicide where the silicide is formed on the component located on the field oxide region. M.P.E.P. §2142. The Examiner has not provided any such motivation but instead relies upon his own subjective opinion which is insufficient to establish a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 19 and 20. *Id.*

Further, the Examiner must present objective evidence and not rely upon his own subjective opinion in support of combining Applicants' Background with Ma, which teaches titanium silicide regions 108 and 109 that serve as the two electrodes of a polysilicon resistor (column 7, line 67 – column 8, line 2). *Id.* The Examiner must present objective evidence as to why one of ordinary skill in the art with Applicants' Background in front of him would have been motivated to modify Applicants' Background to include a titanium silicide region based on a resistor having an electrode that is a titanium silicide region, as taught in Ma. *Id.* Since the Examiner has not presented any objective evidence for combining Applicants' Background and Becker with Ma, the Examiner has not presented a *prima facie* case of obviousness in rejecting claims 19 and 20. *Id.*

2. The Examiner's reliance on *Sinclair & Carroll Co., Inc. v. Interchemical Corp.* is misplaced.

The Examiner states in his rejection to claims 19 and 20 that a "selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co., Inc. v. Interchemical Corp.*, 325 U.S. 327, 65 U.S.P.Q. 297 (1945)." Paper No. 15, page 7. Applicants note that *Sinclair & Carroll*, upon which the Examiner relies, precedes *Graham vs. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). Thus, to the extent that *Sinclair & Carroll Co.* anticipates the factual analysis mandated in *Graham*, they are merely cumulative of *Graham*. Conversely, to the extent that as contrary to the factual inquiry mandated by *Graham*, it must be deemed overruled by *Graham*.

Furthermore, if the Examiner cites this case to suggest that the Examiner does not have a burden of providing objective evidence for modifying Applicants' Background and Becker with Ma to have a silicide comprise either a titanium silicide or a cobalt silicide where the silicide is formed on the component located on the field oxide region, the Examiner is mistaken. The Examiner must submit objective evidence and not rely on his own subjective opinion for modifying Applicants' Background and Becker with Ma to have a silicide comprise either a titanium silicide or a cobalt silicide where the silicide is formed on the component located on the field oxide region. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002).

Furthermore, Applicants respectfully assert that the Examiner's use of *Sinclair & Carroll Co.* is misplaced. In *Sinclair & Carroll Co.*, the U.S. Supreme Court determined that Gessler's patent on a particular ink was invalid since the ink was already known. *Sinclair & Carroll Co.* at 335. However, Applicants are not attempting to procure a patent on either titanium silicide or cobalt silicide. Hence the citing of *Sinclair & Carroll Co.* by the Examiner is misplaced.

III. CONCLUSION

As a result of the foregoing, it is asserted by Applicants that claims 1-3 and 17-21 in the Application are in condition for allowance, and Applicants respectfully request an allowance of such claims. Applicants respectfully request that the Examiner call Applicants' attorney at the below listed number if the Examiner believes that such a discussion would be helpful in resolving any remaining issues.

Respectfully submitted,

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